2006 TEACHER QUALITY SUMMIT

Teaching Above the Gathering Storm: Preparing STEM and World Language Teachers for the Global Economy

October 23-24, 2006
The Brown Hotel
Louisville, Kentucky

Earlier this year, the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine issued the report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Future*, which outlines a comprehensive strategy to address our nation's need for high-quality jobs and energy independence. Its recommendations focus on P-12 education, postsecondary education, and economic policy. Improving the preparation and professional development of teachers and increasing the pipeline of students ready to earn degrees in science, technology, engineering, and mathematics are critical to improving America's—and the Commonwealth's—quality of life. This summit's agenda also includes world language learning and increasing the availability of world language teachers as requisite to Kentucky's global competitiveness.

Monday, October 23

11:00
Foyer
Third Floor

CONFERENCE REGISTRATION

12:30-1:45
Crystal Ballroom
Third Floor

WELCOME

James L. Applegate, Vice President for Academic Affairs
Council on Postsecondary Education
Ann E. Larson, Acting Associate Dean for Assessment and Accountability,
University of Louisville

PLENARY PANEL DISCUSSION

Creating the "Perfect Storm" to Raise Student Achievement

James L. Applegate, Moderator
Edward J. Cunningham, Executive Director, Kentucky Higher Education Assistance Authority
Linda France, Deputy Commissioner, Kentucky Department of Education
The Honorable Dan Kelly, Kentucky State Senator
Thomas D. Layzell, President, Council on Postsecondary Education
Cindy Owen, Division Director, Education Professional Standards Boards

Representatives of key stakeholders will share perspectives on joining forces to improve teacher education and student learning.

1:45-2:00
South Alcove
Third Floor

BREAK

2:00-3:00
Crystal Ballroom
Third Floor

Turning the Tide: More and Better Mathematics and Science Teachers for America

Charles R. Coble, Partner, The Third Mile Group

This session will present research on initiatives and programs to increase the supply of teachers in STEM disciplines.

3:00-3:15 **BREAK**

South Alcove
Third Floor

3:15-4:15 **BREAKOUT GROUP PRESENTATIONS**

Broadway A
Third Floor

Meeting Teacher Shortages: The India Connection

Elaine Jarchow, Northern Kentucky University

Carol Hauser, Miami University, formerly Cleveland Municipal School District

Four years ago, the Cleveland Municipal School District successfully recruited 50 mathematics, science, and special education teachers from India and retained 42 of them. The program has been described as a "phenomenal success," incorporating "unbelievable content knowledge" and "superior skill in individualizing instruction." This session explores the project and engages participants in discussing piloting a similar project in Kentucky.

Broadway B
Third Floor

Improving Student World Language Performance: Using Assessment as the Guiding Force in Standards-Based Instruction

Laura McGee, Western Kentucky University

World language instruction has been identified as a critical need in Kentucky P-12 education, and Kentucky postsecondary institutions are graduating few world language majors certified to teach. Kentucky world language instruction needs to be strengthened to prepare P-12 students for world languages in college, to advance through postsecondary education smoothly, and to be prepared as citizens and workers in an increasingly diverse global society and economy. This project, funded by an Improving Educator Quality grant for world languages based at WKU, focuses on assessment as the way to insure standards-based instruction will improve the skills of Kentucky P-12 world language teachers.

AND

Improving Instruction through Assessment: A Report on the Implementation of Linguafolio and STAMP in Kentucky World Language Classrooms

Jeff Rogers, University of Kentucky

Jacqueline Van Houten, Kentucky Department of Education

This session will examine the implementation of the two world language assessment tools currently endorsed by the Kentucky Department of Education: Linguafolio and STAMP. Jacqueline Van Houten will report on preliminary feedback from teachers on implementation of the Linguafolio self-assessment tool currently being piloted by teachers around the state. Jeff Rogers will focus on early STAMP results from around the state of Kentucky. STAMP is an online proficiency test currently being piloted at a number of schools around the state through the support of Improving Educator Quality funds and support from individual districts. Both of these assessment tools make it possible for teachers to assess the gains they and their students have made while shifting instruction toward a proficiency-oriented approach that focuses on real-world communication skills in the target language.

Broadway C
Third Floor

The Appalachian Mathematics and Science Partnership (AMSP) Model for Institutional Collaboration with School Districts: The Partnership Enhancement Project (PEP) Program

John Yopp, University of Kentucky
Wimberly Royster, UK
Barbara Shoemaker, UK

The principal goal of the National Science Foundation's Mathematics and Science Partnership Program is to reform the nation's mathematics and science education system through the establishment of effective collaborations between school districts and institutions of higher education. One of the most effective AMSP programs is the Partnership Enhancement Project, a mini-grant ($30,000) program established in 2003 involving collaborations between school districts and postsecondary institutions. This session will discuss the results of the evaluation of the PEPs in Kentucky school districts to date, the commitments to the PEPs given by the school districts, and the methodology employed to evaluate postsecondary faculty serving in the partnerships.

J. Graham Brown
Third Floor

Bringing Rigor and Relevance to Mathematics and Science through Applied Learning and Engineering Applications

Rodney Kelly, Kentucky Department of Education
Henry Lacy, KDE

High schools are implementing Project Lead The Way® (PLTW), a pre-engineering curriculum to enhance mathematics and science instruction and prepare more students for advanced education in engineering and engineering technology. Results from existing Kentucky schools implementing PLTW indicate that mathematics and science academic achievement of students enrolled in the pre-engineering courses exceed those of other students. The PLTW curriculum is based on a high-level mathematics and science content taught through applications in engineering. Therefore, there is a need for teachers with a higher degree of mathematics and science foundation skills to be prepared to teach these courses. This presentation will highlight the expectations of schools implementing PLTW pre-engineering curriculum and how math teachers can utilize applied instructional practices to enhance student learning.

Louis XVI
Third Floor

Teacher Quality Research Findings from the Education Professional Standards Board's Title II Grant

Stephen Clements, University of Kentucky
Bill Bush, University of Louisville
Art Thacker, Human Resources Research Organization
Andrea Sinclair, Human Resources Research Organization
Shannon Sampson, UK

In late 2002, Kentucky's Education Professional Standards Board received a multi-year Title II (HEA) Teacher Quality Enhancement Grant from the U.S. Department of Education. Along with several other research goals, the EPSB pledged to develop a five-year teacher quality research agenda and to encourage Kentucky researchers to address the agenda and the general activities undertaken in the grant. The EPSB's grant staff implemented the research goals by sponsoring numerous research conferences in 2003-06, creating the five-year research agenda and commissioning research on the Kentucky Teacher Internship Program (KTIP). In spring 2004, the EPSB solicited research proposals from Kentucky scholars that addressed priority items from the research agenda and made four sub-grant awards based on a competitive review of the proposals it received. This panel session will provide an overview of three of the grant's funded research studies. Each of these projects addresses aspects of quality mathematics instruction.

Gallery Room
Sixteenth Floor

Using EPAS Data in Teacher Preparation Programs

Joe Dell Brasel, Senior Consultant, ACT, Inc.

Middle and secondary teachers will receive comprehensive results from the EXPLORE and PLAN tests administered in September. How do teachers translate test data and reports into instruction that results in more students graduating from high school ready to enter college and workforce training programs? How can teacher preparation programs help current and future teachers use the data from these programs mandated by SB130?

4:15-4:30 **BREAK**
South Alcove
Third Floor

4:30-5:30 **TEAM PLANNING WORK**

Discussions on how to develop further institutional action plans based on conference proceedings, focusing on preparing the teachers needed to provide mathematics, science, and foreign language study for all students.

Broadway C, Third Floor ..... **Asbury College, Brescia University, Georgetown College, Mid-Continent University, Midway College, St. Catharine College, and University of the Cumberlands**

Individuals from **KCTCS institutions** should attend the session with their closest geographic four-year partner institutions.

Broadway A, Third Floor..... .. **Eastern Kentucky University**
Gallery Room, Sixteenth Floor .. **Kentucky State University**
Broadway B, Third Floor..... .. **Morehead State University**
Broadway C, Third Floor .... **Murray State University**
Gallery Room, Sixteenth Floor .. **Northern Kentucky University**
Louis XVI Room, Third Floor... .. **University of Kentucky**
J. Graham Brown, Third Floor... **University of Louisville**
Gallery Room, Sixteenth Floor .. **Western Kentucky University**
Lobby .... **State Policy Makers**

5:30 **RECEPTION** ~ Sponsored by the University of Louisville
Bluegrass Room (cash bar)
Second Floor

Entertainment by the **Mike Tracy Jazz Trio**
Mike Tracy, saxophone; **Jim Connerley**, piano; **Tyrone Wheeler**, bass

6:30 **DINNER**
Crystal Ballroom **Welcome**
Third Floor **Thomas D. Layzell**, President, Council on Postsecondary Education

Creating the Future of Education in Kentucky
Pearse Lyons, President, Alltech, Inc.

SUMMIT ADJOURNS FOR EVENING

Tuesday, October 24

7:30 **BREAKFAST BUFFET**
Bluegrass Room
Second Floor

8:30-9:30 **PLENARY PANEL DISCUSSION**
Crystal Ballroom
Third Floor

Changing the Climate with P-16 Partnerships

Dianne M. Bazell, Assistant Vice President for Academic Affairs, Council on Postsecondary Education, Convenor
Michael Moore, Executive Vice President and Provost, Morehead State University
Cathy Gunn, Dean, College of Education, MoSU
Gerald DeMoss, Dean, College of Science and Technology, MoSU
Frank Welch, Adron Doran Fellow and Special Assistant to the Dean, College of Education, MoSU, Superintendent (retired) Pike County Public Schools

Morehead State University has undertaken several policy, programmatic, and data collecting initiatives with school districts in its area of geographic responsibility. Key partners will describe some of these efforts and discuss challenges they have faced and directions they intend to pursue.

9:30-9:45 **BREAK**
South Alcove
Third Floor

9:45-10:45 **BREAKOUT GROUP PRESENTATIONS**

Broadway A
Third Floor

Alternative Certification of World Language Teachers: Promise and Problems

Gay Washburn, Northern Kentucky University
Paul Wirtz, NKU
Jacqueline Van Houten, Kentucky Department of Education

This session will highlight an alternative certification program for world language teachers, developed out of a collaboration of NKU, Thomas More College, KDE, and Jefferson County Public Schools and funded by an Improving Educator Quality grant. Discussion will include: The promise of this kind of program for schools and would-be teachers, the issues encountered in the first implementation and the solutions found, and the achievements and issues of the first cohort of teachers. Most are now teaching in schools, bringing linguistic and cultural diversity into the classroom and enhancing the education of students.

AND

The Faculty Ambassadors' Program at Kentucky State University

Beulah Downey, Kentucky State University
Sandra Trammell, KSU

This session will review a study of the Faculty Ambassadors' Program, which focuses on arts and sciences faculty collaborating with high school teachers to improve the quality of teacher education programs. The session will examine changes in attitudes reported by arts and sciences faculty as a result of their designing and implementing a Teacher Work Sample and unit project presented in consultation with high school teachers. Presenters will address how lessons learned can be used to improve postsecondary classes and teacher education.

Broadway B
Third Floor

A Snapshot of Rigor and Relevance: Who's Breaking an Academic Sweat?

Carolyn Witt Jones, Partnership for Successful Schools
Lu Young, Jessamine County Public Schools
Felicia Roher, Jessamine County Public Schools
Verna Lowe, Asbury College
Bonnie Banker, Asbury College
Bruce Branen, Asbury College
Towana Roller, Asbury College

This presentation will address the year-long research sponsored by the Partnership for Successful Schools and funded by a Title II grant from the Education Professional Standards Board. This research aligns with Kentucky's goals to enhance the achievement of secondary students, to create a seamless transition between high school and college, and to determine the features of truly rigorous and relevant classrooms within the Commonwealth. This study was a collaborative effort between higher education and P-12 schools and resulted in findings that affect pedagogy, classroom assessment, district-wide analysis of instruction, and statewide accountability.

Broadway C
Third Floor

Improving Student Preparation for Study of STEM Disciplines: SPIN Information Night Programs

C. Dale Elifrits, Center for Integrative Natural Science and Mathematics, Northern Kentucky University
Thomas Brackman, Center for Integrative Natural Science and Mathematics, NKU

Preparation during high school and earlier for the study of STEM disciplines in college is critical to the success of students. This presentation will provide details of a strategy to target high-ability high school sophomores and their parents and expose them to what is needed to prepare for STEM discipline study and to the remarkable career opportunities that study in a STEM discipline offers. Science and Pre-Engineering Information Night, SPIN, is a newly-developed program at NKU. It is modeled from 16 years of experience in these kinds of programs offered by the University of Missouri-Rolla in conjunction with community colleges in Missouri. Results from the Missouri program showed increased enrollment in STEM enrollments in the participating communities.

J. Graham Brown
Third Floor

Educational Policy and the Demand for Teachers: Useful Inferences about Mathematics and Science Teachers Using Available Data

Terry Hibpshman, Education Professional Standards Board

Reports of teacher shortages in certain critical fields, such as mathematics, science, and foreign languages, are common but largely unsubstantiated. Although there is some reason to believe that the demand for teachers has risen somewhat over the past few decades (Ingersoll, 2003), there is no reason to believe that the supply of trained personnel has in general not been sufficient to meet the increased demand in most subjects. This session will use two recent policy initiatives, the four-year high school mathematics requirement and the proposed foreign language requirement, to demonstrate how existing data resources can be used productively to draw inferences about the effect of such initiatives on the demand for teachers. The analysis will show that the mathematics policy will probably not result in a widespread shortage of mathematics teachers, although it may result in a flattening of the mathematics curriculum and a reduction in the demand for teachers in other subjects; and that the foreign language policy may result in a greater demand for teachers than can be met from existing sources. The session will briefly discuss what can and cannot be determined from existing data sources in Kentucky and the type of data resources that would be required to create more detailed estimates than are now possible.

Louis XVI
Third Floor

Update on House Bill 93 in Support of Mathematics Teaching and Learning in Kentucky

Linda Sheffield, Northern Kentucky University
Bill Bush, University of Louisville

Recognizing that mathematical proficiency is a gateway skill necessary for all Kentucky students to achieve their academic goals, in spring 2005 the Kentucky General Assembly passed House Bill 93 in support of mathematics teaching and learning in Kentucky. In collaboration with the Committee for Mathematics Achievement, the Kentucky Department of Education, the Council on Postsecondary Education, and all Kentucky public universities and other postsecondary institutions, the Kentucky Center for Mathematics is responsible for developing and executing an implementation, research, and evaluation plan to put into action the goals outlined by the Committee for Mathematics Achievement. This session will provide an update on the Committee's work and the Kentucky Center for Mathematics.

AND

Closing the Gap

Bill Phillips, Eastern Kentucky University

Kentucky has an identifiable achievement gap in mathematics, which is particularly acute for students of color, non-English language speakers, students with disabilities, and students from low-income families. The Center for Public Education (2006) suggested that the best strategy to close the achievement gap is to ensure that schools have great teachers. In fact, the lack of good teachers for these students is the single greatest cause of the achievement gap. How do we provide struggling schools with quality math teachers in a field that currently has a shortage of graduates? Currently Kentucky produces far too few mathematics educators; a recruitment plan is desperately needed to meet the demand. This session will discuss a new program at EKU, "Try Teaching," that recruits professionals from non-teaching fields and encourages them to try teaching in the public schools for two weeks.

Gallery Room
Sixteenth Floor

Making Math and Science a Priority When Used in the Context of Problem Solving Using the Environment as an Integrating Context

Joe Baust, Murray State University
Terry Wilson, Western Kentucky University

Murray State University's Center for Environmental Education (CEE) and Western Kentucky University's Center for Math, Science, and Environmental Education (CMSEE) have engaged in collaborative projects dating back to the 1980's within the network of centers for environmental education across the Commonwealth through the Kentucky University Partnership for Environmental Education, which includes all of the regional universities, the University of Kentucky, and the University of Louisville. This past summer, CEE and CMSEE, with the support of Improving Educator Quality monies, provided a residential institute for teachers from the service regions of MuSU and WKU. More than 40 participants explored non-point source pollution and its impact on water quality with a culminating activity with children from St. Jude Hospital's Sickle Cell Anemia Program. The presentation will look at the approach and the intermediary outcomes that demonstrate how using the environment as an integrating context not only intersects national mathematics and science standards and relates to the "unified concepts" in the newly revised Kentucky Core Content but also affects the cognitive, affective, and psycho-motor domains for learning.

10:45-11:00 **BREAK**
South Alcove
Third Floor

11:00-12:00 **TEAM PLANNING WORK**

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Lobby .... **State Policy Makers**

12:00-2:00 **LUNCH**

Crystal Ballroom
Third Floor

Kentucky STEM Initiatives

Allyson H. Handley, Senior Policy Advisor for Postsecondary Economic Initiatives, Council on Postsecondary Education

Statewide World Languages Strategy

Dianne M. Bazell

Institutional teams sit together. Continue to develop institutional, regional, and statewide action plans.

Reporting Out: Recommendations and Wrap-Up

2:00 **ADJOURN**